

Opening Remarks - Panel:

Big Data Access & Big Data Research Integration in Power Systems

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Analytic Methods for Power Systems (AMPS) Committee

Big Data Analytics Subcommittee (BDAS) ←

Computing and Analytic Methods Subcommittee (CAMS)

Distribution System Analysis Subcommittee (DSAS)

Intelligent Systems Subcommittee (ISS)

Risk, Reliability and Probability Applications Subcommittee (RRPAS)

Transient Analysis and Simulation Subcommittee (TASS)

Big Data Analytics Subcommittee (BDAS)

Working Group 1: Big Data Access ←

- Co-chairs: Ning Zhou & Hamed Mohsenian-Rad

Task Force 1: Big Data Webinar Series

Task Force 2: Big Data Applications

Big Data Access Working Group

- **Objective:**

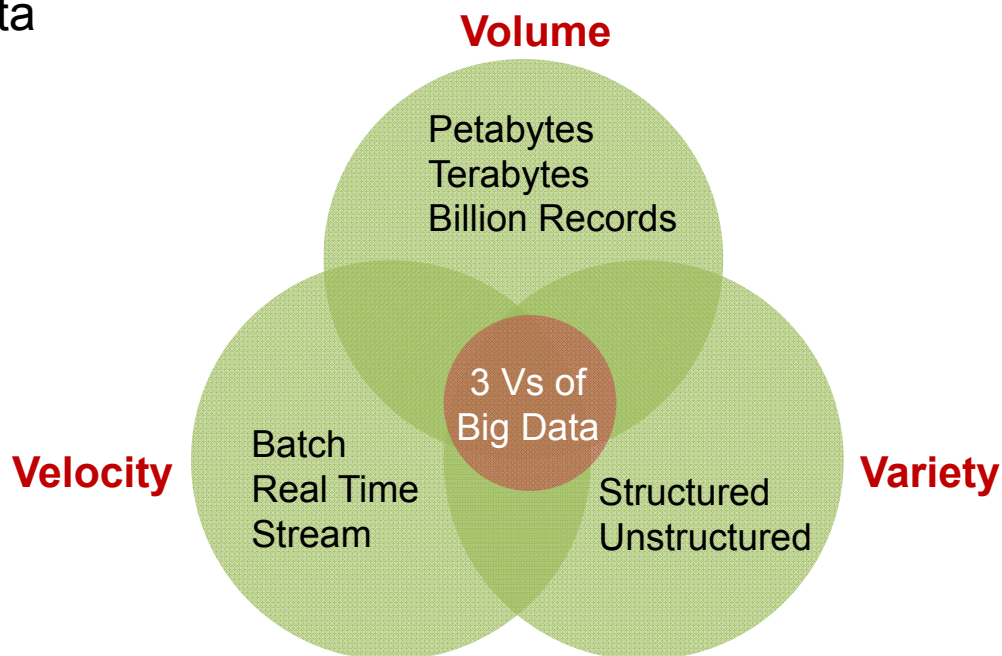
Promote research, development, and education in Big Data Analytics in power systems by facilitating public access to “Big Data”.

- **Questions:**

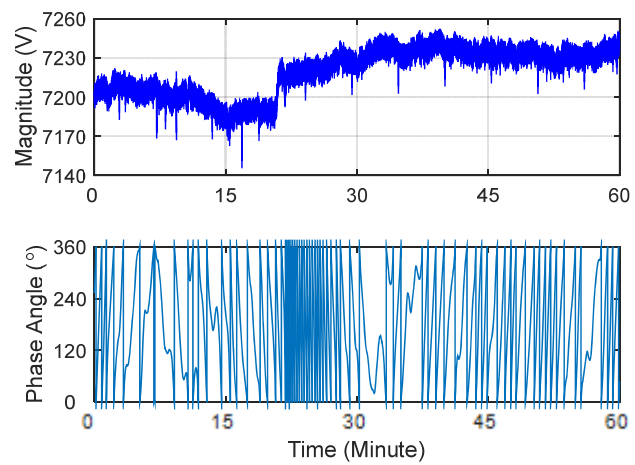
1. What kind of data are we looking for?
2. What do we do to help?
3. What is our relationship with other Big Data initiatives?

Examples of Big Data of Interest

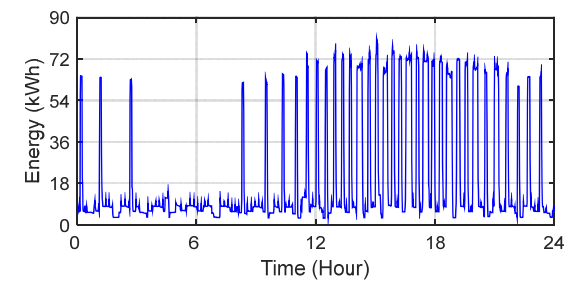
- Data that qualifies as “Big Data”.
- Prefer Real-world Data
- Prefer Raw Data



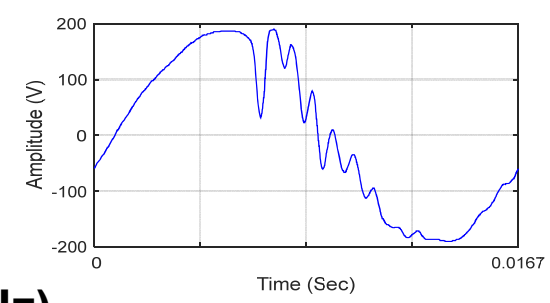
Examples of Big Data of Interest



PMU Data (10~120 Hz)



Smart Meter Data (≤ 1 Hz)



PQ Meter Data (8 KHz ~ 1 MHz)

What Can the Working Group Do?

- Data Availability:
 - Identify Available Data
 - Make More Data Available
- Data Organization and Classification
- Use Cases and Examples
- Facilitate Collaboration and Communication
- Identify Promising Applications and Share Success Stories
- ...

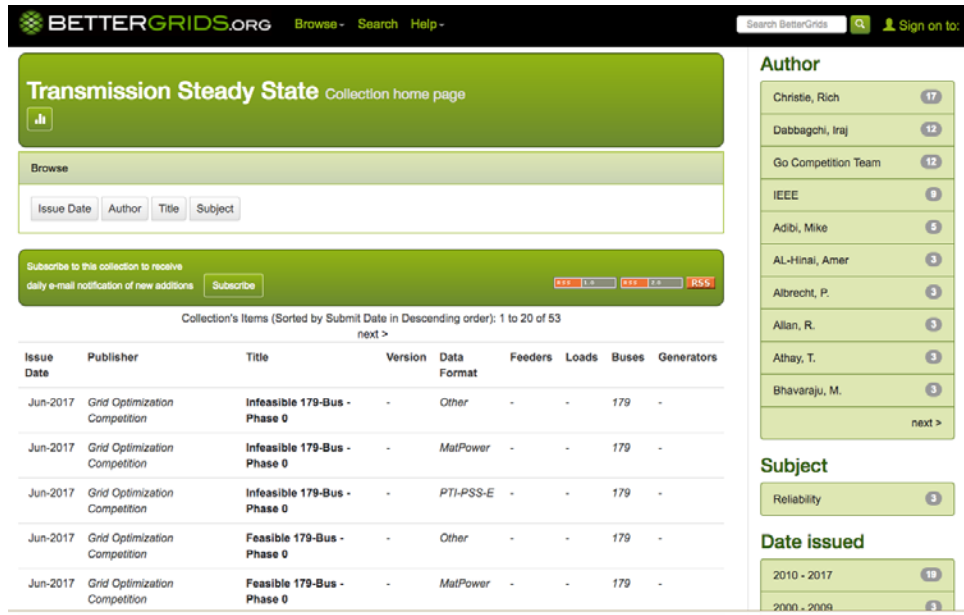
Relationship with other Big Data Initiatives

- Identify and publicize such Initiatives
- Establish connections to such initiatives through liaisons
- Put everything in one platform:
 - Provide the link
 - Search options
 - Comparisons
 - Use cases and examples
- ...

Example:  BETTERGRIDS.ORG

by Terry Nielsen

The **GRID DATA Repository** is a free library of public grid models and research test data. It contains a grid data collection from across the utility industry, including grid models that are being created under the ARPA-E GRID DATA Program.



The screenshot shows the BETTERGRIDS.ORG website interface. The main content area displays a collection of items under the heading "Transmission Steady State". A table lists several items, all dated June 2017, related to "Grid Optimization Competition" and "Phase 0". The table columns include Issue Date, Publisher, Title, Version, Data Format, Feeders, Loads, Buses, and Generators.

Issue Date	Publisher	Title	Version	Data Format	Feeders	Loads	Buses	Generators
Jun-2017	Grid Optimization Competition	Infeasible 179-Bus - Phase 0	-	Other	-	-	179	-
Jun-2017	Grid Optimization Competition	Infeasible 179-Bus - Phase 0	-	MatPower	-	-	179	-
Jun-2017	Grid Optimization Competition	Infeasible 179-Bus - Phase 0	-	PTI-PSS-E	-	-	179	-
Jun-2017	Grid Optimization Competition	Feasible 179-Bus - Phase 0	-	Other	-	-	179	-
Jun-2017	Grid Optimization Competition	Feasible 179-Bus - Phase 0	-	MatPower	-	-	179	-

On the right side of the page, there are filters for "Author" and "Subject". The "Author" filter lists names like Christie, Rich (17), Dabbaghi, Iraj (12), Go Competition Team (12), IEEE (9), Adibi, Mike (5), AL-Hinal, Amer (3), Albrecht, P. (3), Allan, R. (3), Athay, T. (3), and Bhavaraju, M. (3). The "Subject" filter shows "Reliability" (3). There is also a "Date issued" filter with options for "2010 - 2017" (18) and "2000 - 2009" (3).

The **ARPA-E GRID DATA** program is funded by the US Department of Energy (DOE) Advanced Research Projects Agency-Energy (ARPA-E) to support research in grid optimization and modernization.

The Repository was developed by **GridBright, Inc.**

Example:  **BETTERGRIDS.ORG**

Key Features

Find public grid models



Browse by Community and Collection

Models are conveniently organized by type into Communities and Collections.



Search by Subject, Author, Title, Date

Models can also be searched by attribute, keyword, or quick-links.



Advanced Custom Searching

Allows for custom filtering and sorting on any attribute or keyword.

Publish your innovations



Submit your Model

Upload and describe your new grid model to the appropriate Collection.



Curators will Review and Publish

Our volunteer curators will review the submission, validate meta-data, and publish to the Repository.



Watch your Citation Count grow

Publishing your grid models is the best way to let others access and use your innovations.

Visit [BetterGrids.org](https://www.bettergrids.org) to Access the Repository

Big Data Analytics Subcommittee

Subcommittee Meeting:

- Today, 3:00 PM-5:00 PM
- Room: G-406 Tiered Classroom

Big Data Access Working Group

Membership Forms – Add your name

Panel Discussion



Emma Stewart

LLNL



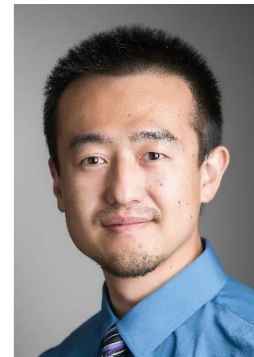
Henry Huang

PNNL



Behzad Nabavi

NYPA



Yingchen Zhang

NREL



Bill Blevins

ERCOT